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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

KRESSE ET AL.

Atty. Ref.: 35-302; Confirmation No.

Appl. No. 10/583,118

TC/A.U. Unknown

Filed: June 16, 2006

Examiner: Unknown

For: OPTICAL DATA STORE WITH SEVERAL STORAGE LAYERS

* * * * *

September 25, 2006

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

SUBMISSION OF INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

Attached is a copy of the International Preliminary Report on Patentability (English version) mailed September 8, 2006 and issued in the underlying International patent application.

Please consider this information when examining the above-identified U.S. national stage application.

Respectfully submitted,
NIXON & VANDERHYE P.C.

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From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY
(CHAPTER I OR CHAPTER II
OF THE PATENT COOPERATION TREATY)
(PCT Rules 44bis.3(c) and 72.2)

To:

BOTH, Georg
Uexküll & Stolberg
Beselerstr. 4
22607 Hamburg
ALLEMAGNE

UEXKÜLL & STOLBERG**13. Sep. 2006****T:**

Date of mailing (day/month/year)

08 September 2006 (08.09.2006)

Applicant's or agent's file reference

P 66628

IMPORTANT NOTIFICATION

International application No.

PCT/EP2004/008749

International filing date (day/month/year)

04 August 2004 (04.08.2004)

Applicant

TESA AG et al

1. Transmittal of the translation to the applicant.

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO
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Authorized officer

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference P 66628	FOR FURTHER ACTION		See item 4 below
International application No. PCT/EP2004/008749	International filing date (<i>day/month/year</i>) 04 August 2004 (04.08.2004)	Priority date (<i>day/month/year</i>) 18 December 2003 (18.12.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant TESA AG			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).
2. This REPORT consists of a total of 8 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Date of issuance of this report 29 August 2006 (29.08.2006)
	Authorized officer Agnes Wittmann-Regis e-mail: pt06@wipo.int

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing
(day/month/year)

See form PCT/ISA/210

Applicant's or agent's file reference

P 66628

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/EP2004/008749

International filing date (day/month/year)

04.08.2004

Priority date (day/month/year)

18.12.2003

International Patent Classification (IPC) or both national classification and IPC

G11B7/24

Applicant

TESA AG

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2004/008749

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language
_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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INTERNATIONAL SEARCHING AUTHORITY

International application No.

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-17	YES
	Claims	NO
Inventive step (IS)	Claims 9-17	YES
	Claims 1-8	NO
Industrial applicability (IA)	Claims 1-17	YES
	Claims	NO

2. Citations and explanations:

Reference is made to the following documents:

D1: DE 199 32 902 A1 (BEIERSDORF AG) 25 January
2001 (2001-01-25)

D2: APPLIED OPTICS, vol. 36, no. 11, 1997, pages
2421-2416, XP002316932

A Novelty

The subject matter of claims 1-17 is considered novel
under PCT Article 33(2).

B Inventive step

B.1 **D1** discloses an optical data medium comprising a
number of superimposed storage layers which are arranged
cylindrically (claims 1 and 12 and figure 2). The storage
layers are each composed of a layer of polymer (1) (e.g.
biaxially oriented polypropylene) and a layer of a dyed
adhesive layer (2).

The dye-carrying layer (2) may be used to store
information in addition to the data written in the
polymer layer, by means of local bleaching out (claims 1

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

and 2).

The *difference* of the subject matter of claims 1-8 lies in the fact that, instead of the dye-comprising adhesive layer, the data store of the application has a reflection layer, preferably a metal layer, whose transmission and reflection values can be changed by heating.

The *effect* of this difference is that an alternative medium is made available to which additional data can be written (see application page 7 lines 14-18).

The remaining *problem* to be solved therefore lies in providing an alternative optical data medium having a plurality of polymer storage layers that is able to accept additional information in interlayers.

D2 outlines the possibility which is utilized by the applicant and cited by the applicant itself of storing information in thin metal layers by means of local heating. Starting from **D1** and looking for an alternative information interlayer, a person skilled in the art would have recourse to the subject matter of **D2**. His or her incitement to do so includes the fact that the thin metal layers disclosed therein are considered suitable for use as "write-once" media (page 2426, left-hand column lines 10-13) and the fact that the transmission/reflection values of the metal layers disclosed therein fall within the range claimed by the applicant (20-90% transmission) (see figure 6 in **D2**) and hence are suitable as information-carrying interlayers in optical data media having a plurality of storage layers.

Accordingly the subject matter of claims 1-8 does not involve an inventive step under PCT Article 33(3).

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

B.2 The International Preliminary Examining Authority sees, as a consequence of the difference established in B.1 between D1 and the application, a further effect, which the applicant refers to: the fact that, by virtue of an intermediate thermal treatment after a write step has been carried out, the transmission of the metal interlayer is increased and hence the optical accessibility with respect to the subsequent polymer layer is increased.

The attention of the applicant, however, is drawn to the fact that an effect which is adjudged surprising can only be considered the sign of an inventive step in the presence of certain prerequisites. In T 21/81 (OJ 1983, 15) it was stated that a claim - even if a (possibly unforeseen) additional effect is achieved - does not involve an inventive step if, on the basis of the prior art, it is obvious for a person skilled in the art to arrive at an as-claimed solution, since an advantageous effect can be expected from the combination of the teachings of the known documents (see T 365/86, T 350/87, T 226/88). In T 69/83 (OJ 1984, 357) as well this case law was confirmed. If a particular solution was forced on the expert by the prior art, on the basis of a substantial part of the existing technical problem, then that solution does not automatically become inventive by virtue of simultaneously and surprisingly solving a component problem as well. An unforeseen additional effect, in other words, does not endow an obvious solution with any inventive quality (T 231/97). In the present case this means that a person skilled in

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citations and explanations supporting such statement

the art arrives at an optical data medium which falls within the subject matter of claims 1-8 even if he or she was not aiming at the effect cited above but instead merely wished to solve the technical problem, stated under B.1, of the additional, information-carrying interlayer.

It follows from this that the subject matter of product claims 1-8 does not involve an inventive step under PCT Article 33(3).

B.3 The International Preliminary Examining Authority considers the subject matter of claims 9-17 to be novel and inventive:

Closest prior art: optical data medium as described under B.1 (D1)

Difference: transmission/reflection values of the storage layers are adjusted by intermediate thermal treatment of the thin "metal island" layer.

Effect: the use of the thin "metal island" layer as a combined absorption layer during the write operation and semi-transparent reflection layer with higher transmission, which comes about as a result of aggregation of the metal islands during the thermal treatment which is carried out after the write operation, leads to an optical data medium having a plurality of data layers, which on the one hand guarantees rapid and reliable writing during the one-off ("write-once") layer-by-layer write operation and on the other hand, subsequently, permits effective optical accessibility and hence legibility of the data.

Problem: to provide a write strategy for an optical data

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

medium having a plurality of storage layers that guarantees rapid and reliable writing during the write operation and subsequently allows rapid and error-free reading.

The solution indicated by the applicant in the subject matter of claims 9-17 is not set out in the cited prior art and no reference to it is evident either.

C Industrial application

The subject matter of claims 1-17 meets the requirements of PCT Article 33(4) in respect of industrial application.